

REMARKS

This Amendment serves as the submission accompanying Applicants' Request for Continued Examination (RCE) filed pursuant to 37 C.F.R. §1.114. By final Office Action mailed January 30, 2004, pending claims 1-6 stood rejected, reconsideration of which is respectfully requested in view of the above amendments and the following remarks. Claims 1-5 have been amended. Claim 52 has been added. Claims 1-6 and 52 are now pending.

Teleconference with Examiner

As an initial matter, Applicants would like to thank the Examiner for the July 20, 2004 teleconference with Applicants' attorneys. As discussed, Applicants are submitting this Amendment, together with a Request for Continued Examination, to enter further claim amendments and arguments to address the Examiner's rejections of the pending claims.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 1-6 remain rejected under 35 U.S.C. § 112, first paragraph, for lack of adequate written description. More specifically, the Examiner is of the opinion that there is no support in the originally filed specification for the negative limitation added to claim 1, namely, that the alternating copolymer is not a copolymer of maleic anhydride and isobutylene. Although Applicants respectfully disagree with the Examiner's rejection and maintain that the use of a negative proviso to excise a species disclosed in the prior art from the scope of a claimed genus is permissible and does not constitute the addition of new matter in view of *In re Johnson*, 194 U.S.P.Q. 187 (C.C.P.A. 1977), Applicants have amended claim 1 to remove the negative proviso clause in order to expedite allowance of the claims.

In lieu of such clause, Applicants have (1) amended claim 1 to incorporate the limitations of claim 5 (except that maleic acid and anhydride have been removed from the list of possible first comonomers), (2) added new claim 52, which mirrors claim 1 and incorporates the limitations of claim 6 (except that  $\alpha$ -olefins have been removed from the list of possible second comonomers), and (3) revised the dependencies of claims 2-5 to reflect the foregoing amendments. In this way, copolymers of (1) maleic anhydride and diisobutylene, and (2) maleic

anhydride and isobutylene remain excluded from the scope of the pending claims. As the foregoing amendments merely incorporate the limitations of dependent claims into independent claims, they do not constitute the addition of new matter.

Accordingly, in view of the foregoing, Applicants submit that the pending claims satisfy the first paragraph requirements of §112 and request that this ground of rejection be withdrawn.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-6 remain rejected under 35 U.S.C. § 112, second paragraph, as being indefinite due to the use of the term “finely divided.” Although Applicants disagree with the Examiner’s rejection and maintain that the scope of this term would be clear to one of ordinary skill in the art, Applicants have amended claim 1 to remove the term “finely divided” in order to expedite allowance of the claims. Accordingly, Applicants request that this ground of rejection be withdrawn.

Rejections Under 35 U.S.C. § 102(b)

Kataoka, Kataoka and Nabeya

Claims 1-6 remain rejected under 35 U.S.C. § 102(b) as anticipated by Kataoka et al. (Japanese Patent No. 58131903), Kataoka et al. (Japanese Patent No. 02111703) and Nabeya et al. (Japanese Patent No. 06009302). More specifically, the Examiner has rejected Applicants’ previous arguments that none of the cited references disclose an *alternating* copolymer within the scope of pending independent claim 1. Again, Applicants respectfully traverse this ground of rejection.

As noted in Applicants’ prior Amendment dated November 3, 2003, and as recognized by the Examiner, none of the foregoing cited references specifically disclose *alternating* copolymer dispersants. Accordingly, as set forth on page 4 of the Office Action dated June 18, 2002, the Examiner is of the opinion that the disclosed copolymers, namely, polymers of styrene/maleic anhydride, would inherently be alternating due to the reactivity of the monomers. Again, Applicants strongly disagree.

To support an anticipation rejection based on inherency, the Examiner must provide a factual and/or technical basis reasonably establishing that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int. 1990); *see also, Schering Corp. v. Geneva Pharmaceuticals, Inc.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) (citing *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)) and *In re Oelrich*, 666 F.2d 578, 581 (C.C.P.A. 1981) (holding that inherency must flow as a necessary conclusion from the prior art, not simply a possible one).

In view of the previously submitted excerpt from J.M.G. Cowie, *Alternating Copolymers* (submitted with Applicants' Amendment dated October 15, 2002), it is known that when maleic anhydride is copolymerized with styrene, the copolymerization becomes increasingly random at temperatures greater than 90°C. Thus, at temperatures in the range of 150-180°C, as disclosed in the English translation of Kataoka et al. (JP 58131903) (submitted with Applicants' Amendment dated May 5, 2003), one of ordinary skill in the art would not reasonably expect such copolymerization to necessarily produce a copolymer that is "alternating" within the scope of the present invention.

In further support of this position, enclosed is a copy of a paper by R. B. Seymour and D. P. Garner regarding the effect of temperature on copolymers of maleic anhydride and styrene (R.B. Seymour and D. P. Garner, *J. Coatings Tech.* 48:41-45 (1976)). As discussed with the Examiner during the July 20, 2004 teleconference, this paper supports the conclusion that *random* copolymers of maleic anhydride and styrene are obtained at temperatures greater than 130°C. In particular, Table 1 on page 44 shows the effect of temperature on the composition of styrene/maleic anhydride copolymers produced from equimolar feed ratios of the monomers, and shows that at a temperature of 130°C, a *random* copolymer having a 7:4 ratio of styrene to maleic anhydride is produced (not an *alternating* copolymer as recited in the pending claims).

During the July 20, 2004 teleconference, the Examiner intimated that the results obtained by Seymour and Garner might be dependent on the initiators employed, namely, azobisisobutyronitrile (AIBN) and dicumyl peroxide, and, therefore, not applicable to Kataoka et al. (Japanese Patent No. 58131903) which teaches, at page 6, lines 4-5, the use of "a radical

catalyst (for example, benzoyl peroxide)". However, upon further review of the Seymour and Garner paper, Applicants find no evidence therein to support a conclusion that the choice of one radical initiator, such as AIBN or dicumyl peroxide, over another initiator, such as benzoyl peroxide, is crucial. Furthermore, enclosed is a copy of U.S. Patent No. 3,388,106 to Muskat, which at column 4, line 71 through column 5, line 10, makes no distinction between the use of a peroxide catalyst, such as benzoyl peroxide or dicumyl peroxide, or another free-radical generating catalyst, such as AIBN, in the context of producing a copolymer of maleic anhydride and styrene.

In view of the foregoing, Applicants submit that one of ordinary skill in the art would not view Kataoka et al. (JP 58131903) as disclosing, teaching, or suggesting, either specifically or inherently, an *alternating* copolymer.

With respect to Kataoka et al. (JP 02111703) and Nabeya, both references are entirely silent as to the specific conditions under which the disclosed copolymers were produced. Accordingly, in the absence of any description regarding the preparation of the copolymers disclosed in Kataoka et al. (JP 02111703) and Nabeya, one of ordinary skill in the art could not reasonably conclude that such copolymers are *necessarily* alternating. As set forth above, for the cited references to be anticipatory, they must either specifically or inherently disclose the claimed subject matter, namely, an *alternating* copolymer. Clearly, neither Kataoka et al. (JP 02111703) nor Nabeya *specifically* disclose alternating copolymers and, for the reasons set forth previously, one of ordinary skill in the art would not view Kataoka et al. (JP 02111703) and/or Nabeya as *inherently* disclosing alternating copolymers.

Accordingly, Applicants maintain that none of the cited references anticipate pending independent claims 1 and 52, and request that this ground of rejection be withdrawn.

Narayanan

Claims 1-3, 5 and 6 remain rejected under 35 U.S.C. §102(b) as anticipated by Narayanan et al. (U.S. Patent No. 5,476,662), which discloses (1) combining a liquid (or low melting point solid) pesticide or herbicide with a copolymer to form a solid complex of the copolymer and captured agrochemical, and then (2) dispersing the copolymer/agrochemical

complex in water as a stable *emulsion*. In order to further clarify the difference between Narayanan and the present invention, and as discussed with the Examiner during the July 20, 2004 teleconference, Applicants have amended claim 1 (and claim 52) to specify that the step of dispersing the claimed formulation in an aqueous medium forms “a *suspension* of the active, water-insoluble, solid agrochemical principal” (emphasis added). One of ordinary skill in the art would appreciate that, at the molecular level, the process of forming an emulsion, as disclosed in Narayanan, is fundamentally different than forming a suspension of a water-insoluble solid in water as per the present invention. Support for this amendment may be found generally throughout the specification, and, in particular, at page 1, line 20, page 4, line 10, page 19, line 4 and page 22, line 8, which clarify that the dispersions prepared according to the present invention are suspensions.

During the July 20, 2004 teleconference, the Examiner pointed to a passage in Narayanan, namely, the paragraph beginning at column 3, line 37, which mentions “the active ingredient is prepared as a suspension” as possibly anticipating the claimed suspension. However, upon further review, such paragraph merely discloses an alternative method of forming the solid copolymer/agrochemical complex by adding a suspension of the agrochemical (aka, active ingredient) to an aqueous solution of the polymer, rather than directly mixing the agrochemical and polymer in a solvent. In either case, the resulting complex is dispersed in water as an *emulsion*.

Accordingly, in view of the foregoing, Applicants submit that Narayanan does not disclose a method of dispersing an active, finely divided, water-insoluble, solid agrochemical principal in an aqueous solution as recited in pending claims 1 and 52 and request that this ground of rejection be withdrawn.

Rejection Under 35 U.S.C. § 103(a)

Claims 1-6 remain rejected under 35 U.S.C. § 103(a) as obvious over Robinson et al. (U.S. Patent No. 4,102,667). More specifically, and as discussed during the July 20, 2004 teleconference, the Examiner is of the opinion that Robinson teaches aqueous dispersions prepared by suspending agrochemicals and alternating copolymers of maleic acid/anhydride and

conjugated dienes in an aqueous solution. While the Examiner recognizes that Robinson discloses a sequence of steps wherein (1) an agrochemical is first dispersed in an aqueous solution, and (2) a copolymer is then added to the dispersion as a drift reducing agent, the Examiner concludes that it would have been obvious to modify the order of the steps to yield the claimed method of the present invention. In particular, that it would have been obvious to first combine the agrochemical and copolymer, and then simultaneously disperse the two in an aqueous solution.

Applicants disagree. To support a *prima facie* case of obviousness, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated one of ordinary skill in the art to modify or combine the prior art references. *See, e.g., Karsten Mfg. Corp. v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385 (Fed. Cir. 2001). Accordingly, in order for the claimed invention to be obvious over Robinson, there must be some teaching, suggestion or motivation in Robinson that, together with knowledge generally available in the art, would have led one of ordinary skill in the art to modify the method disclosed therein in order to yield the claimed method of the present invention. In particular, there must be some teaching, suggestion or motivation to modify the order of the steps disclosed by Robinson, namely, to use the copolymers drift reducing agents disclosed therein as dispersants.

Applicants submit that Robinson contains no such teaching, suggestion or motivation. As an initial matter, the disclosure of Robinson contains no teaching or suggestion to use the copolymer drift reducing agents disclosed therein as dispersants for water insoluble chemicals. Furthermore, evidence that a particular copolymer is effective as a drift reducing agent, would not lead one of ordinary skill in the art to the conclusion that such a copolymer would be effective as a dispersant. For example, the efficacy of an additive as a drift reducing agent is dependent upon the surface tension properties of the additive, whereas, the efficacy of an additive as a dispersant is independent of such surface tension properties (*see, e.g.,* Miller et al. paper entitled "Adjuvant Effects on Spray Characteristics and Drift Potential" submitted with Applicants' prior Amendment dated November 3, 2003).

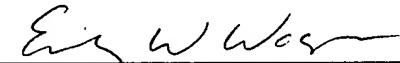
Accordingly, in view of the foregoing, Applicants submit that the cited reference fails to establish a *prima facie* case of obviousness against claims 1-6 and 52, and request that this ground of rejection be withdrawn.

In view of the above amendment and remarks, allowance of claims 1-6 and 52 is respectfully requested. A good faith effort has been made to place this application in condition for allowance. However, should any further issue require attention prior to allowance, the Examiner is requested to contact the undersigned at (206) 622-4900 to resolve the same. Furthermore, the Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

Andrew Francis Kirby et al.

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Enclosures:

Reference No. 1: Seymour et al., *J. Coatings Tech.* 48:41-45 (1976)  
Reference No. 2: U.S. Patent No. 3,388,106

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